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ABSTRACT

The purpose of this study was to describe the strategies mothers employ to elicit clarifying information from their children in a situation in which the children were reporting a past event. Forty 2-year-old children individually participated in a mock birthday party with the experimenter. Immediately afterwards, the mothers (20 of whom had observed the activity and 20 who had not) elicited information about the party from their children. The requests for clarification presented by the mothers were coded for contingency to the previous utterance, pragmatic function, and grammatical structure, while the responses presented by the children were coded for appropriateness. For the purposes of this study, request for clarification is defined as a statement or question directed by the mother to her child which indicated that she needs repeated, confirmed, or additional information in order to understand the child's report. Results and their implications are discussed. Additionally, results of analyses are indicated in numerous tables, and coding protocols are appended. (Author/RH)

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Mothers' Requests for Clarification and Children's Responses in Past Event Reporting

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Paper presented at the Annual Convention of the American Educational Research Association, New York, March, 1982.

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Abstract

The purpose of this study was to describe the strategies employed by mothers in eliciting clarifying information from their children in a situation in which the children were reporting a past event. Forty two-year-old children individually participated in a mock "birthday party" with the experimenter. Immediately afterwards, the mothers (twenty of whom had observed the activity and twenty who had not) elicited information about the "party" from their children. The requests for clarification presented by the mothers were coded for contingency to the previous utterance, pragmatic function, and grammatical structure, while the responses presented by the children were coded for appropriateness. The results indicated that the observer and nonobserver mothers differed significantly in their total number of utterances, proportion of requests for clarification, and use of contingent and noncontingent requests. Collapsing the data for observer and nonobserver mothers, the frequency of the various types of requests for clarification and the grammatical forms that they took were analyzed. Regarding the pragmatic functions of the requests for clarification, the mothers used significantly more requests for confirmation and fewer requests for repetition than requests for specification or elaboration. Regarding the grammatical form, they preferred the question form for encoding each type of request. The children used appropriate responses as well as no

response significantly more often than inappropriate responses following the requests. Their use of appropriate responses did not differ significantly depending upon whether the requests were contingent or noncontingent. In response to the pragmatic functions of the requests for clarification posed by the adults, the children used appropriate responses significantly more frequently following requests for confirmation than they did for other types of requests. The implications of these results are discussed.

Introduction

The interaction between mothers and their children has been studied from a number of perspectives. Within this realm, one topic of research concerns conversation, and, more specifically, how conversations are initiated, maintained, and terminated by both the mother and the child. This study addressed the second facet of this process, conversational maintenance. Information is presented concerning both the use of the request for clarification by mothers in speech to their young children as well as the responses of the children to these requests. From this information we describe the strategies for eliciting clarifying information utilized by the mothers and how these strategies affect the children. The role of the request for clarification-response to request sequence in conversation maintenance, comprehension facilitation, and language development is described.

Definition of the Request for Clarification

The request for clarification has most frequently been used in child language research as one means of coding mothers' questions to their children. Generally the request for clarification has been coded when a miscommunication occurs in the form of the message. For example, when a message is encoded, the speaker chooses a particular form in which to present it, including such parameters as vocabulary choice, articulation, loudness level, and the

accompanying nonverbal affect. When the listener perceives a limitation in the form of presentation, as in the case of misarticulation of words or insufficient loudness to compete with external interference, he or she is unable to fully perceive the intended message. In many cases, he or she then indicates to the original speaker that some parameter of the message must be altered before he or she can understand it completely. Conversely, a speaker may encode a message with no deficits in form which still may not be fully understood by the listener due to internal factors such as inattention. In these cases, as well, the listener may indicate to the original speaker that he or she will modify some personal behavior (i.e. pay closer attention) to understand the repetition of the original message.

In any given message, however, the form in which the information is presented is not the only component of the message for which clarification may be requested. There is the actual content of the message itself. A miscommunication may occur with respect to the form, the content, or both. Additionally, while no miscommunication may occur with a particular utterance, a listener may simply wish to acquire more information to fully understand a topic or maintain an interaction. In 1977, Garvey discussed the topic of "contingent queries" and expanded the definition of the request for clarification to include those queries which are made when any miscommunication or desire for further information occurs in the conversation, whether related to the form of the message or to the actual information contained in the message. She described four major types of requests which the listener-requester could direct

to the primary speaker concerning a message.[1] The first is a request for repetition, in which the listener asks the primary speaker to repeat all or a portion of his or her original message. This request is used most frequently when some type of distortion, either environmental or internal, interferes with the listener's receipt of the message. The second is a request for confirmation, in which the listener-requester asks the primary speaker to confirm some facet of the message, such as the listener's interpretation of the form or the meaning. The third is a request for specification, in which the listener-requester asks the primary speaker to provide a specific piece of information which will facilitate his or her comprehension of the original message. Finally, the fourth is a request for elaboration, in which the listener-requester asks the speaker to provide elaborated information about his or her original utterance. According to Garvey, each of these techniques allows the listener to obtain some type of clarifying information from the original speaker which will facilitate his or her comprehension of the message at hand.

While Garvey expanded the definition of the request for clarification to include any aspect of an utterance that was in question, her definition is still limited in that it specifies that these requests must be contingent. That is, each request for clarification must immediately follow the utterance to which it refers. While many requests for clarification may indeed be contingent

[1] For purposes of clarity, throughout this paper we will refer to the person uttering a request for clarification as the listener-requester and the person to whom the request is directed as the primary speaker.

queries, the nature of conversation suggests that many will be noncontingent, as well. When mothers interact with young children, many of their requests will be contingent due to the limited linguistic output of the children. For example, a child's immature phonological system may affect the intelligibility of his or her utterances. Similarly, a limited lexical and syntactic system may also affect the specificity and length of a child's utterances. However, many requests may be noncontingent, as well, for to compensate for the child's relatively limited verbal output the mother must rely heavily on the immediate nonlinguistic context or on the child's nonverbal behaviors to sustain the interaction. When mothers interact with older children, many of their requests may be contingent due to interference with transmission or receipt of the message. However, since the older child will have more sophisticated phonological as well as syntactic and semantic systems, his or her initial attempts at messages will generally be more successful. Also, it is characteristic of interaction with older children to contain more displaced reference. This will include queries related to past and future events as well as to the immediate context. Finally, since the conversation with older children is usually reflected in longer topic-related sequences, the nonimmediate linguistic context will lend itself to more queries. Thus, to reflect the nature and characteristics of adult-child conversation, the definition of the request for clarification should again be expanded to include noncontingent as well as contingent queries.

For the purpose of this study, we have formed the following

definition of the request for clarification: The request for clarification is a statement or question directed by the mother to her child which indicates that she needs repeated, confirmed, or additional information in order to understand his or her report. She may provide the request for clarification in the form of a request for repetition of a portion or all of a message, a request for confirmation of the form or the content of the message, a request for presentation of specific information to more clearly delineate the meaning of the message, or a request for presentation of elaborated information to present an explanation, description, or other function. The requests may be contingent (i.e., related to the immediately preceeding utterance) or noncontingent (i.e., directed toward the nonimmediate linguistic context, the nonlinguistic context, or nonverbal behaviors).

Functions of Requests for Clarification

As previously stated, the request for clarification serves a number of important functions in mother-child interaction. First, it is a device which is utilized to maintain the conversation. The request for clarification serves as a link between the utterances of the speakers. For example, a contingent request for clarification relates to the immediately previous utterance in that it acknowledges receipt of the communicative attempt, yet indicates that more conversation is needed or desired. As such, the request provides the impetus for a following utterance and, based on the nature of the request, constrains the fomr that utterance might take or the message that will be appropriate in response. For example, a request for repetition will most likely be followed by a repetition of

the original utterance, while a request for elaboration will be followed by an expansion of the original utterance. A noncontingent request for clarification may link not only items in the linguistic context but also the linguistic with the nonlinguistic context. For example, a noncontingent request concerning previously presented utterances in the conversation serves to maintain or reintroduce a topic at hand, resulting in greater cohesion of the conversation. A noncontingent request concerning the nonlinguistic context or nonverbal behaviors in the interaction facilitates the formulation of linguistic messages concerning the context, which in turn supplement the current topic or introduce a new one. The nature of the request for clarification as a statement or question that requires an obligatory response insures that it will facilitate at least the act of turn taking if not also the act of sharing revised and/or additional information.

The request for clarification is also a device which serves to facilitate the comprehension of both participants in the conversation. As two individuals participate in an exchange of information, they actively monitor the degree to which they understand the messages at hand. In the event of a miscommunication or a limitation of information, the request for clarification is a primary means used by the listener-requester to indicate his or her noncomprehension as well as to provide the primary speaker with a direction as to the types of information which will relieve the difficulty. The primary speaker, then, is able to take this direction and modify his or her subsequent utterances to more appropriately match the comprehension strategies of the listener-requester. This joint effort at eliciting and providing modifications of the presented information

leads to the more effective presentation and comprehension of the current information.

The previous two functions of the request for clarification, that of maintaining a topic and facilitating interactant comprehension, appear common to all interactions in which the act of clarification occurs. For mother-child interaction, however, another function appears crucial. The request for clarification is a means of facilitating the development of primary linguistic as well as metalinguistic skills in the child. When a mother presents a request for clarification to her child, she first allows him or her to exercise a number of communication strategies. For example, the act of providing specification allows the child to substitute an equivalent item for the referent word in his or her original utterance or to combine other words with the original referent to create a new, longer utterance. In the same manner, the act of providing elaboration allows the child to produce a wide range of information concerning his or her original utterance. In addition to allowing this "practice" of the revision or expansion of utterances, the request for clarification encourages the use of metalinguistic skills. When a mother presents a request to a child, he or she must first hold his or her original utterance in mind and evaluate it with respect to his or her mother's request. If, for example, the mother has requested elaborated information, the child must first determine which information was present in the original utterance and then determine the appropriate information to use for the expansion of the original utterance. In this way he or she learns to reflect on language in order to modify its form and meaning.

Previous Research Concerning the Request for Clarification

In addition to being utilized as a specific category for coding mothers' speech to their children, the request for clarification has been the primary focus of a limited number of studies. This research has three major components, namely the development of a definition of the request for clarification, the description of these requests in adult and peer speech to children, and the description of the responses of children to these requests.

We have previously discussed the development of the definition of the request for clarification and have expanded the definition to include not only information on response types but also information regarding the relationship to the linguistic and nonlinguistic contexts in which the requests occur. While this study focuses only on the actual request for clarification-response sequence, it is important to note that the total act of clarification includes two other components. Garvey (1977) indicated that for a request to occur there must first be an original utterance in question which stimulates the chain of interaction. Given our discussion of noncontingency as well as contingency in interaction, it is possible that a nonverbal action or environmental factor, as well as a noncontingent utterance, may perform the same function. Thus, the sequence becomes original event - request for clarification - response. Gallagher (1981) suggested that a fourth component of the sequence is present in any acknowledgement or turn resumption that occurs following resolution of the request. The final sequence, then, is original event - request for clarification - response - acknowledgement/ turn resumption.

To describe the use of the request for clarification by both adults and peers in interaction with children, Garvey (1977) and Gallagher (1981) observed child-child and adult-child dyads, respectively, utilizing three- to five-year-old children. The partners' contingent queries directed to the children in a free play situation were analyzed. With younger children, the partners utilized more requests for repetition than for confirmation or specification, while with older children, the partners utilized an approximately equal number of each type of request. While these studies introduced the task of viewing the request for clarification in interaction, they neglected a number of crucial variables.

First, they viewed the request in only one situation, free play. In play, it is not surprising that many requests would indeed be contingent. Since the nonlinguistic contains many objects, information concerning these as well as the actions which a child performs with them is immediately available. The partner, then, may direct more comments to the actual linguistic exchange. In other situations, such as referential communication, in which objects are present but not visible, or reporting a past event, in which few, if any, referents are present, a partner may need to present both contingent and noncontingent queries to elicit information from the child.

Second, in free play, partner familiarity with the topic at hand is most likely assured since many referents are present. In situations in which few referents are present, a partner may need to adapt different information-gathering strategies with the child. We suggest that two broad purposes of communication are to develop relationships and to share information. The use of requests for

clarification in interactions with one of these goals as the primary purpose will be considerably different from interactions in which the other goal is foremost. For example, the presentation of requests for clarification has been studied most often in free play. These situations, while valuable for maintaining the dyad relationship, are less conducive to the elicitation of clarifying information than are teaching or informing situations. They focus, instead, on describing the immediate situation and encouraging communication in general. Other situations, however, are highly conducive to requesting clarifying information. For example, mothers frequently request reports of past events from their young children. This situation increases the probability that requests for clarification will be frequently used because it focuses on the exchange of information. Since the mother needs or desires to obtain as much information as possible to facilitate her own comprehension of the report and/or facilitate the reporting skills of her child, it is likely that she will utilize a variety of techniques to elicit this information - including many requests for clarification. In this study, then, we utilized a situation in which the child was reporting about a completed event as a part of the experimental task in order to tap the strategies mothers utilize in presenting requests when clarification is a focus, not merely an occurrence, in an interaction.

Finally, the previous studies viewed only three of the four contingent query types, namely repetition, confirmation, and specification. The partners' use of requests which required only minimal responses from the children suggested that they were presenting requests which would be the easiest to answer. However, in failing to analyze the requests for elaboration, or report the lack of such

requests, the authors did not capture the pattern of introduction of questions which would require more sophisticated responses from the children.

To describe the responses of children to requests for clarification, researchers have utilized two major strategies. First, Gallagher (1977), Gallagher and Darnton (1978), and Valian and Caplan (1979) have studied the responses of children to the open question "What?" in conversation. The purpose of work such as this was to determine whether children would respond, and, if so, how in light of their responses being minimally constrained by the nature of the request. The results of these studies indicated that young children, both with normal and deviant language skills, recognized that responses were required by the requests, as they provided more responses than no responses. They utilized two major strategies in responding. First, they simply repeated all or a portion of their previous message. Second, they performed a number of modifications of their original messages, including syntactic and phonetic changes. To provide information concerning children's responses to requests other than open-ended ones, Gallagher (1981) determined the frequency and appropriateness of preschool children's responses to requests for repetition, confirmation, and specification. She found that the children appropriately responded to the majority of these requests and that the frequency of responses increased with age. These findings are consistent with those of Garvey (1977), who found that children responded to peer requests in a similar manner. While these studies do address child responses to varied types of requests, they have not recognized the effects of the contingency of the requests or the grammatical structures on the responses of the children.

Focus of the Present Study

Because, as previously stated, the request for clarification-response sequence requires and reflects a variety of conversational and linguistic skills, it was desirable in this study to analyze mother requests and child responses with respect to several complementary areas. Specifically, the following research questions were formulated:

1. How does the degree of mother familiarity with the situation (in this case, past event reporting) influence her total number of utterances, frequency of requests for clarification, and variety of functions of requests for clarification?

2. What are the linguistic characteristics of the request for clarification, namely the contingency, functions of requests, and grammatical structures?

3. What types of responses do children present to requests for clarification with respect to contingency and functions of these requests?

The first research question addressed the effect of the degree shared familiarity of both conversational participants with the conversational topic. Whether a mother is familiar or unfamiliar with her child's topic may shift the focus of the interaction from the maintenance of the relationship to more exchange of information. For example, when a mother is familiar with her child's topic, it is likely that many of her requests for clarification would deal with the way in which the child's information was presented rather than the content of his or her messages. On the other hand, when a mother does not already know the possible range of information her child might be trying to communicate, she may devote much effort to questioning the content of the child's report as well as the ways in which he or she presents the information. With mothers who are

familiar with the past event, then, it is likely that most information is shared in a reflective manner, while with mothers who are unfamiliar with the event, it is probable that information is shared to facilitate the comprehension of the mother. This study investigated differences in mothers' styles of interaction based on whether they observed their child's activity which later served as the topic of the past event report.

Our second research question addressed three aspects of the linguistic message which contributed to the actual presentation of the requests for clarification, namely the degree of contingency of the requests with previous utterances, the pragmatic functions of the requests, and the grammatical structure of the requests. First, requests for clarification may be contingent or noncontingent. As previously stated, the mother who interacts with her young child may utilize both forms of the request, with contingent requests being directed toward those utterances that are unclear or telegraphic due to the child's immature linguistic system, and noncontingent requests being directed toward the supporting nonlinguistic context or utterances that are nonimmediate. Each request also has a specific function, as previously discussed, which places a different constraint on the response of the child. With the request for repetition, the child must provide a response identical or similar to his previous utterance, while with the request for confirmation he must simply respond affirmatively or negatively. In the requests for specification and elaboration he or she must provide further information. Finally, each request must be coded with a particular grammatical form. Either direct (i.e. wh- or yes/no questions) or indirect (i.e. statements or directives) forms may be used to encode requests for

clarification, based on which forms the mothers judge as most easily understood by the children.

This study, finally, was concerned with the responses of the children to their mothers' requests for clarification. As previously stated, research findings suggested that young language-learning children are aware that requests for clarification require responses which involve a modification of the original message. In this study both the frequency of response and the appropriateness of children's responses are investigated.

Method

Subjects

Forty children and their mothers served as subjects for this study. The children ranged in age from 23 to 36 months, with a mean age of 27 months. Children from the two-year-old range were selected because they exhibited early conversational abilities as well as emerging reporting skills. The investigators assumed that these children would demonstrate early conversational skills and interaction strategies and thus would also demonstrate the earliest forms of response to requests for clarification from their mothers. Observation of these young children would provide a baseline with which data obtained from older children could be compared.

No attempt was made to use an equal number of children from each sex; twenty-three boys and seventeen girls comprised the sample. An interview with each mother, conducted by a graduate student in speech-language pathology and supplemented with informal interaction with each child, confirmed that each child was developing language, social, and related skills within normal limits.

Each child lived in a two-parent home in which the native language was English. No attempt was made to control for the birth order of the children. Each child was either enrolled in a day care program or had daily interaction with peers.

Informal interaction with each mother confirmed that she had no overt communication impairment or other obvious physical disorder.

Experimental Sessions

The data from which the experimental results were calculated were obtained in a past event reporting session in which the mother encouraged her child to describe an event in which he or she had participated. This situation was chosen because it occurs frequently in mother-child interaction and should reflect the wide range of strategies utilized by mothers to elicit information from their children as well as the ability of the children to respond to questions and maintain the dialogue.

Before the data collection sessions were conducted, the mother-child dyads were randomly assigned to one of two experimental conditions. In the first condition, the mother observed the activity in which her child participated and later attempted to report. In the second, the mother did not observe the report. Thus, there were two experimental conditions: child with mother observing event, and child with mother not observing event. The factor of mother familiarity with the task was selected so that differences in the frequency and functions of requests could be observed with respect to the degree of information the mother possessed.

To insure that each mother-child dyad would have a common topic about which to converse, the investigators provided a simulated birthday party for each child. This "pretend" situation was chosen because it was considered to be a salient activity that would be enjoyable for each child and about which he or she would be likely to remember specific information.

At the beginning of each birthday party session, the investigators allowed the mother and child dyads to spend five minutes in

the experimental room so they could become familiar with the setting. Following this, the mothers who were observers assumed a place in the corner of the room and were directed to watch but not actively participate in the party activities. The mothers who were not observers were directed to a nearby waiting room and asked to remain there until the task was completed.

At this point the "birthday party" was conducted. The investigators performed the following activities in the specified order:

1. The investigator removed a balloon from a bag and blew it up for the child.
2. The investigator placed a napkin on the table in front of the child and placed a cupcake on the napkin.
3. The investigator placed two candles in the cupcake and lit them.
4. The investigator sang "Happy Birthday" to the child.
5. The child blew out the candles on the cupcake.

Following these procedures, the party was concluded. The mothers who had observed the party left the room with their children after all remnants of the party had been removed, while the mothers who had not observed then came to the room to see the children. Each mother then accompanied her child to the water fountain for a drink after instructions to not discuss the event until they returned to the room. There was approximately a five-minute break between the conclusion of the party and the beginning of the reporting session.

The reporting sessions were then conducted. The investigator instructed each mother to talk with her child about the event that had just occurred. The mothers were asked to interact with their children as they would in any situation in which they were directing their child to report a past event. The conclusion of the reporting

session was at the discretion of each mother, who ended the conversation either when she had obtained enough information to understand the child's report or believed that further questioning would elicit no new information about the event. The investigator remained in the room to videotape the interactions but did not participate in the conversations.

Data Coding

Following each reporting session, one investigator viewed each videotape and wrote a verbatim transcription of the conversation. All verbal interchange regardless of its relationship to the topic was included; however, nonverbal behaviors were included only when they substituted for a verbal response, such as "yes" or "no." The transcriptions were recorded on a language coding form designed by Van Kleeck, Maxwell, Marquis, Gunter, and Smith (1981).

Mother Data

Each request for clarification presented by each mother was identified. Only utterances which requested repetition, confirmation, specification, or elaboration of topic-related information were included in the analysis. Thus, requests for general information or rehearsal of knowledge were excluded. Also, requests that occurred in aside events were excluded. Across mothers, a range of 37.9 to 85.9% of total utterances were requests for clarification.

After each request for clarification was identified, it was coded in three ways. First, the pragmatic function of the request was chosen from the categories of repetition, confirmation, specification, and elaboration. This code was used so that the nature of the

requests could be identified and the demands placed on the children quantified. The definitions for each category are contained in Appendix A.

Second, the contingency of each request was recorded. Requests were judged as contingent if they immediately followed a child's utterance that was questioned and as noncontingent if they did not immediately follow a child's utterance that was questioned or refer to a nonlinguistic behavior or event. This code was used so that the degree of displaced reference in the speech of the mothers could be evaluated.

Third, the grammatical structure of each request was coded. This code was used so that the style of the mothers' speech could be noted. A summary of grammatical forms is contained in Appendix B.

Child Data

Each response to the mothers' requests for clarification was identified. In this coding, the child's behavior immediately following each request was noted. When two or more behaviors occurred simultaneously, both were included in the coding.

Following its identification, each response behavior was assigned to one of three categories, (1) no response, (2) incomplete response, and (3) appropriate response. This code was chosen so that the general adequacy of each child's response could be monitored.

Utterances within the category of "incomplete response" were coded with respect to their semantic characteristics. A summary of the categories and definitions may be found in Appendix C.

Each child response was also coded in terms of the antecedent

event, including mother familiarity, contingency of the request, and function of the request. This code allowed the investigators to view the number of appropriate responses based on these variables.

Reliability of Measures

Mother Data

Four transcripts of the mother-child conversation were randomly selected and coded on different occasions by two certified speech-language pathologists with a specialty in language development and disorders. A percentage of agreement was calculated. In order for the coding for each request to be in agreement, the two scorers must have coded each of the three areas (request function, request contingency, and grammatical form) identically. The percentage of agreement in this study ranged from 79% to 84% across the four transcripts, with a mean of 88%, indicating adequate reliability.

Child Data

Again, four transcripts, or 10% of the mother-child conversations were randomly chosen and coded. Two certified speech-language pathologists performed the coding on different occasions. As before, a percentage of agreement was calculated. The investigators were judged to agree when their coding was identical for the response category, description of incomplete response (when appropriate), and antecedent events. In this study the percentage of agreement ranged from 80% to 88% across the four transcripts, with a mean of 86%, indicating adequate reliability.

Data Analysis

The raw data were recorded on coding sheets, with one sheet representing mother data and another representing child data.

In this study one independent variable was considered, that of mother familiarity with the topic of the past event reporting session. With respect to this independent variable, a number of dependent variables were measured.

Both raw and proportional data were utilized in the analyses. The proportional data were calculated by first determining the percentages of production corresponding to each raw frequency in each category, then transforming the data to proportions using an arcsin transformation table (Olsen, 1962). Proportional data were utilized to insure that significant differences in the dependent variables were due to actual differences rather than indicative of differences due simply to frequency of production.

In the analyses, non-directional, two-way t-tests were utilized to analyze the data because no directional hypotheses had been formulated. To decrease the probability of a Type I error in the computation of multiple t-values, the level of probability for each test was set at .01. For the one-way analyses of variance the level of probability was also set at .01, while for the post-hoc Scheffe' analyses the level of probability was set at .05.

Mother Data

T-tests were conducted to determine significant differences between the observer versus nonobserver mothers in (1) the total number of utterances produced (1 t-test), (2) the total number and

proportion of utterances that were requests for clarification (2 t-tests), (3) the total number and proportion of requests that were contingent (2 t-tests) and noncontingent (2 t-tests), and (4) the total number and proportion of requests that fell into each category of pragmatic function (i.e., repetition, confirmation, specification, and elaboration) (making a total of 8 t-tests).

To delineate patterns in mother use of requests for clarification independent of mother familiarity with the topic at hand, both the pragmatic functions of the requests and the grammatical structures for encoding the requests were analyzed by collapsing the data for both observers and nonobservers. First, the total number of mother requests in each of the four pragmatic function categories was calculated. A one-way analysis of variance with repeated measures was conducted to determine significant effects, followed by a Scheffe' analysis to locate the sources of variance. Next, to determine the preferred grammatical structures of the mothers, both the raw total frequencies and proportions for structures within each function of request were calculated.

Child Data

The responses of the children were categorized as no response, incomplete response, or essentially appropriate response. The child data were then first analyzed for types of responses with respect to the familiarity of the mothers presenting the requests. A t-test was conducted for both raw and proportional data (2 t-tests) to determine trends in the children's responses.

Next, the responses of the children were analyzed independent of mother familiarity with the topic to determine the preferred

response strategies. The total number of responses in each category were calculated, and a one-way analysis of variance with repeated measures was conducted to determine significant effects, followed by a Scheffe' analysis to locate the sources of variance.

Next, to determine differences in child responses with respect to the contingency of the requests, the raw frequencies and proportions for each type of response within each contingency category were calculated. T-tests (a total of six) were conducted both both the raw and proportional data to determine significant differences.

To determine differences in child responses with respect to the functions of those requests, the raw frequencies and proportions for appropriate responses within each request category were calculated. A one-way analysis of variance with repeated measures was conducted to determine significant effects, followed by a Scheffe' analysis to locate the sources of variation.

Finally, to describe the features of the incomplete responses to the requests, the raw frequencies and proportions of responses within each feature category were calculated.

Results

Analysis of Mother Data

Observer and nonobserver mothers were compared on their total number of utterances, total number and proportion of requests for clarification, total number and proportion of contingent and noncontingent requests, and total number and proportion of each pragmatic function. The observer mothers used a significantly greater number of total utterances than did the nonobservers (Table 1). While there was no difference between the groups in the total number of requests for clarification, the observers used a significantly higher proportion of requests than nonobservers (Table 2). The nonobserver mothers used a significantly greater number and higher proportion of contingent requests than did the observers, while the observers used a significantly greater number and higher proportion of noncontingent requests than did the nonobservers (Table 3). Finally, the mothers differed in the raw number of requests for repetition, confirmation, and specification, with observer mothers using significantly more requests for specification and nonobserver mothers using significantly more requests for repetition and confirmation. However, no differences in the proportion of each type of request were noted between the two groups (Table 4).

When the pragmatic functions of requests for clarification and the grammatical structures for those requests were analyzed independent of mother familiarity with the topic, the analysis first re-

vealed that the mothers as a group used significantly more requests for confirmation and significantly fewer requests for repetition than requests for specification and elaboration (Tables 5 and 6). Finally, the mothers preferred question forms as the means for encoding requests for clarification (Table 7). For each pragmatic function of requests, question forms were used more often than any other grammatical structure.

Analysis of Child Data

The responses of the children were first analyzed with respect to the familiarity of their mothers (Table 8). The children of observer mothers presented significantly more behaviors in the category of no response than did children of nonobserver mothers. No differences were seen in the use of incomplete and appropriate responses. Also, there was no significant difference between the groups in the proportion of responses in each category.

Following this, the responses of the children were analyzed independently of the familiarity of their mothers in order to determine their preferred response types. The analysis revealed that the children used the strategies of responding appropriately and presenting no response significantly more often than responding inappropriately Table 9).

Next, the children's appropriate responses were analyzed with respect to the contingency and pragmatic functions of their mothers' original utterances. The results first showed that the children's use of appropriate responses was not significantly different for contingent and noncontingent requests (Tables 10 and 11). Their use

of appropriate responses was significantly different, however, with respect to the pragmatic functions of the requests, as they answered appropriately to significantly more requests for confirmation and fewer requests for repetition than other types of requests (Tables 12 and 13).

Finally, the analysis of the children's incomplete responses revealed that these responses were characterized most often by unintelligibility, followed by the provision of unrelated information, repetition of a previous noncontingent utterance, giving topic-related information, repetition of a previous contingent utterance, and provision of a partially correct response (Table 14).

Discussion

The purpose of this study was to gain information concerning the ways in which mothers elicit clarifying information from their children. The effect of mother familiarity with the topic of the report was investigated with respect to the number of utterances, frequency of requests for clarification, degree of request contingency, and function of request. Also, the grammatical structures utilized for encoding their requests were described. The responses of children to these requests were evaluated in terms of their appropriateness.

The results of this study first indicated that mothers directed much of their attention to requesting clarification from their young children while listening to and eliciting information about a past event. At least one-third of all maternal utterances directed toward the children were such requests, while most of the mothers employed these requests one-half to three-fourths of the time. In mother-child interaction in a play setting, requests for clarification comprise only a small proportion of the maternal requests. It is evident that the mothers in this study utilized a large proportion of these requests. Some of the discrepancy may lie in the definition of the request for clarification. Since in this study the request encompassed both the form and the meaning of the message, more requests may fall into the category of "requests for clarification" rather than into similar categories such as "requests for information." Some of the discrepancy, however, may lie with the

nature of the experimental task. In a reporting session such as this the focus is much greater on the sharing of salient information than on simply conducting an interaction. The high proportion of talk directed to requests for clarification suggested that information sharing was a prime goal for the interaction.

Several differences were noted between mothers who were familiar with the experimental topic and those who were not. First, the observer mothers utilized both more utterances and a higher proportion of requests for clarification. It appeared that the observer mothers both attempted to elicit more information and to comment on the information than did nonobserver mothers. Since these mothers already possessed information about the topic, it appeared that they utilized requests as a means of maintaining the interaction rather than gaining new information. Further support for the idea that the observer mothers utilized their requests primarily for topic maintenance is seen in the comparison of the use of contingent and noncontingent requests. The nonobserver mothers preferred contingent requests, while the observer mothers preferred noncontingent requests. Since the mothers who had not observed the activities of their children had no other means besides the linguistic context for eliciting information from the children, it is not surprising that the majority of their requests would be directed to the immediate linguistic context. Mothers who did observe, however, used not only the immediate linguistic context but also the nonimmediate linguistic and nonlinguistic contexts for reference. Finally, while the observer mothers utilized significantly more requests for repetition, confirmation, and specification than the nonobserver mothers, the proportions of presentation of each function of response by each group were essentially

the same. Thus, it appeared that the interactions of observer and nonobserver mothers with their children differed primarily on the amount of talk, frequency of requests for clarification, and the degree of contingency of the requests.

The mothers were evaluated as a group for their presentation of functions of requests as well as their preferred grammatical structures. The mothers in this study used significantly more requests for confirmation and fewer requests for repetition than requests for specification and elaboration. It appeared that the mothers most frequently presented the type of request which would require the easiest response; the child was simply required to respond affirmatively or negatively rather than repeat or modify his or her original message. Additionally, since the request for confirmation often serves as an acknowledgement rather than a true request for a confirming response, the children were not obliged to present a verbal response each time. Thus, the mothers appeared to be assuming most of the responsibility for eliciting information by not only asking more open-ended questions, such as requests for elaboration, but also by formulating hypotheses concerning possible answers and asking the children to simply confirm or deny them. In this study the preferred grammatical structure for encoding requests was the question form. This was the most commonly-used structure for each of the four types of requests. This indicated that the mothers were utilizing primarily direct forms with their children. This directness, coupled with a question inflection for each, allowed the children to understand more easily that their mothers desired a response from them.

While the children in this study provided slightly more response behaviors to observer mothers, they did not differ significantly in

in the proportion of no response, incomplete response, and appropriate responses given to both observer and nonobserver mothers. These children preferred to answer appropriately or to not respond more often than they did to answer inappropriately. However, they did provide a response, whether incomplete or appropriate, more often than failing to respond. They apparently recognized the need for a response and attempted to react in some way. The children in this study also appeared to recognize which types of information were required. Many of their responses were appropriate; that is, they presented the information requested by their mothers. Even their inappropriate responses, however, generally followed the trend of maintaining a relationship with the immediate or nonimmediate linguistic context. An analysis of the children's incomplete responses indicated that, while many were simply unintelligible due to faulty articulation or interference, approximately one-half were partially correct, topic-related, or a repetition of a previous contingent or noncontingent utterance. In this manner, the children maintained a general topic even in the presence of providing incomplete responses.

We stated previously that the request for clarification served three major purposes in an interaction, namely, to maintain a topic, to facilitate comprehension, and to promote the development of linguistic and/or metalinguistic skills in the child. In this study, it appeared that the maintenance of the topic was the overriding function. While the facilitation of comprehension was a component of the interaction, it often was not the foremost component. For example, the observer mothers were already aware of the topic of the conversation and thus were not as much in need of the information as the nonobserver mothers, and yet a greater proportion of their utterances

were requests for clarification. Also, while the nonobserver mothers did need clarifying information, they spent less time providing requests for clarification and comments than the observer mothers. For these nonobserver mothers it appeared that less effort was directed toward facilitation of their own comprehension. The promotion of linguistic and/or metalinguistic development also was not the most salient component of the interaction. This is seen in the mothers' frequent use of requests for confirmation, which require a relatively simple response, and their preferred use of direct question forms, which are easy to understand. The children in this study were not often put in the position of evaluating their previous utterances and utilizing this information to construct modified utterances. They also were not challenged to evaluate the meanings of indirect requests and appropriately respond to them. It appeared, then, that the maintenance of the topic was the focus of the interaction, as the mothers provided many requests which in turn required responses, and as the children provided responses which often at least approximated appropriate ones.

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TABLE 1. Analysis of total number of mother utterances. The range, mean, and standard deviation of the raw frequencies for mothers in the observer and non-observer groups are presented. A t-test conducted between the two groups yielded a significant difference in the total number of utterances.

	Observers	Non-Observers	Degrees of Freedom	T-value	Sig.
Range	24-147	21-134			
Mean	73.450	60.400			
S.D.	7.394	9.437			
			38	4.88	$< .001$

TABLE 2. Analysis of total number and proportions of mother requests for clarification. The range, mean, and standard deviation of the raw frequencies as well as the range, mean, and standard deviation of the proportions are presented. Arcsin transformations of the percentages of total mother utterances that are requests for clarification are presented in parentheses. A t-test conducted between the two groups yielded no significant difference in the raw frequencies of requests for clarification but a significant difference in the proportions of requests for clarification in the two groups.

	Observers	Non-Observers	Degrees of Freedom	T-value	Sig.
Range	11-73 (1.3264-2.1176)	12-98 (1.3510-2.3717)			
Mean	42.850 (2.532)	39.200 (1.889)			
S.D.	5.637 (.7829)	2.590 (.2489)			
			38	1.08 (12.485)	NS ($< .001$)

TABLE 3. Analysis of total number and proportion of contingent and noncontingent requests for clarification. The range, mean, and standard deviation of the raw frequencies and the proportions are presented for both contingent and noncontingent requests. Arcsin transformations of the percentages of total requests for clarification that are contingent and noncontingent requests are presented in parentheses. A t-test conducted between the two groups yielded a significant difference in both the raw frequencies and proportions of contingent requests as well as in both the raw frequencies and proportions of noncontingent requests.

	Observers	Non-Observers	Degrees of Freedom	T-value	Sig.
Contingent					
Range	5-24 (.8500-1.5708)	7-34 (.8258-1.9412)			
Mean	12.700 (1.1562)	15.200 (1.3218)			
S.D.	5.780 (.2066)	9.570 (.2979)			
			38	3.64	<.001
			38	(7.70)	(<.001)
Noncontingent					
Range	6-52 (1.5708-2.2916)	7-64 (1.2004-2.3518)			
Mean	30.350 (1.9753)	24.000 (1.8197)			
S.D.	11.570 (.1989)	13.030 (.2986)			
			38	3.87	<.001
			38	(6.27)	(<.001)

TABLE 4. Analysis of total number and proportion of types of mother requests for clarification. The range, mean, and standard deviation of the raw frequencies as well as the range, mean, and standard deviation of the proportions are presented. Arcsin transformations of the percentages of the types of requests for clarification are presented in parentheses. A t-test conducted between the two groups for use of each type of request for clarification yielded significant differences in the raw number of requests for repetition, confirmation, and specification in the two groups but no significant differences in the proportion of any type of request in the groups.

	Observers	Non-Observers	Degrees of Freedom	T-value	Sig.
Repetition					
Range	0-6 (.0000-.7288)	0-6 (.0000-.7554)			
Mean	1.050 (.2977)	1.350 (.3653)			
S.D.	.1096 (.0566)	.1513 (.0749)			
			38	12.500	<.001
			38	(.845)	NS
Confirmation					
Range	8-31 (1.0098-2.1969)	6-56 (1.0701-2.0737)			
Mean	17.850 (1.4525)	21.900 (1.6549)			
S.D.	2.619 (.3045)	6.994 (.2615)			
			38	5.810	<.001
			38	(.265)	NS
Specification					
Range	1-36 (.5772-1.5568)	1-24 (.4949-1.2068)			
Mean	13.600 (1.1374)	6.650 (.8579)			
S.D.	4.208 (.2838)	1.556 (.1675)			
			38	3.113	<.01
			38	(.996)	NS

Table 4, continued:

Elaboration

Range	2-19 (.5276-1.4346)	2-40 (.5074-1.7722)			
Mean	9.700 (1.0051)	10.250 (1.0951)			
S.D.	.936 (.1791)	3.336 (.2909)			
			38	1.190	NS
			38	(.610)	NS

TABLE 5. Analysis of functions of requests for clarification. The range, total, mean, standard deviation, and proportion of each of the four types of requests is presented.

	Request Types			
	Repetition	Confirmation	Specification	Elaboration
Range	0-6	6-56	0-36	2-40
Total	48	805	377	399
Mean	1.200	20.125	9.425	9.975
S.D.	1.587	15.856	8.430	9.273
%	2.940	49.410	23.140	24.510

TABLE 6. Analysis of types of requests for clarification. An analysis of variance with repeated measures was conducted for all forty subjects across the four types of request categories. The analysis revealed a significant difference with respect to types of requests. A post-hoc Scheffe' analysis conducted at the .05 level of significance yielded significant differences in the production of requests for repetition and confirmation from the other groups.

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate
Rows	3,621.000	39	92.846
Columns	7,206.225	3	2402.075
Interaction	6,007.525	117	51.346
Total	16,835.750	159	

F_c = 46.782, sig. at < .01
F_r = 1.808, NS

TABLE 7. Analysis of types of grammatical structures utilized for the four types of requests for clarification. The raw frequencies and percentages of grammatical structures within each type of request are presented.

	Grammatical Structure	Total	% of Category
Request Type			
Repetition	Question Forms	20	40.8
	Social Forms	1	2.4
	Primitive Forms	23	46.9
	Directive Forms	3	7.5
	Declarative Forms	1	2.4
Confirmation	Partial Repetition	28	2.5
	Total Repetition	92	12.6
	Partial Repetition with Addition	54	4.8
	Total Repetition with Addition	328	42.7
	Other Forms	303	40.4
Specification	Question Forms	377	100.0
	Directive Forms	0	0.0
	Declarative Forms	0	0.0
Elaboration	Question Forms	394	95.6
	Directive Forms	2	2.2
	Declarative Forms	3	2.2

TABLE 8. Analysis of types of responses to requests for clarification by observer and nonobserver mothers. The range, mean, and standard deviations of the raw frequencies and proportions are presented for each response type. Arcsin transformations of the percentages of total responses within each category are presented in parentheses. A t-test conducted between the two groups for the elicitation of each type of response yielded a significant difference in the number of no responses but no significant differences in the number or proportion of other categories.

	Observers	Non-Observers	Degrees of Freedom	T-value	Sig.
No Response					
Range	3-43 (1.007-1.939)	3-37 (.8148-2.0556)			
Mean	19.150 (1.438)	17.250 (1.4887)			
S.D.	4.961 (.3045)	4.845 (.2977)			
			38	2.710	.01
			38	(.292)	NS
Incomplete Response					
Range	0-20 (.0000-1.5007)	1-15 (.5881-1.3796)			
Mean	7.100 (.8258)	6.750 (.8500)			
S.D.	1.876 (.2003)	.959 (.1000)			
			38	.935	NS
			38	(.236)	NS
Appropriate Response					
Range	6-31 (.8339-1.7722)	2-43 (.4690-2.0737)			
Mean	15.450 (1.3633)	14.150 (1.2745)			
S.D.	2.109 (.2537)	4.972 (.5472)			
			38	2.188	NS
			38	(.393)	NS

TABLE 9. Analysis of types of responses to requests for clarification. An analysis of variance with repeated measures was conducted for all subjects across the three types of responses. The analysis revealed a significant difference both with respect to the types of responses and trends across children. A post-hoc Scheffe' analysis conducted at the .05 level of significance yielded significant differences in the production of incomplete responses from the other groups.

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate
Rows	8,306.000	39	212.970
Columns	3,285.000	3	1095.000
Interaction	4,727.000	117	40.400
Total	16,318.00	159	

F_c = 27.300, sig. at $< .01$
F_r = 5.320, sig. at $< .01$

TABLE 10. Analysis of types of responses to contingent and noncontingent requests for clarification. The raw frequencies and percentages of responses within each type of request are presented.

	Response Types		
	No Response	Incomplete Response	Appropriate Response
Request Types			
Contingent Requests			
Repetition	18 (38.20)	12 (25.70)	17 (36.10)
Confirmation	229 (59.10)	26 (6.80)	132 (34.10)
Specification	18 (22.80)	26 (32.90)	35 (44.30)
Elaboration	13 (28.20)	9 (19.70)	24 (52.10)
Noncontingent Requests			
Repetition	0	0	0
Confirmation	159 (38.10)	56 (13.50)	202 (48.40)
Specification	126 (42.10)	72 (24.20)	101 (33.70)
Elaboration	186 (52.60)	76 (21.50)	90 (25.90)

TABLE 11. Analysis of appropriate responses to contingent and noncontingent requests for clarification. The range, mean, and standard deviations of the frequencies and the proportions are presented for both contingent and noncontingent requests. Arcsin transformations of the percentages of total responses that are appropriate are presented in parentheses. A t-test conducted between the two groups yielded no significant differences for either raw frequencies or proportions.

	Contingent Requests	Noncontingent Requests	Degrees of Freedom	T-value	Sig.
Range	0-19 (.0000-1.0318)	2-24 (.0005-1.8039)			
Mean	9.800 (1.3502)	5.200 (1.3431)			
S.D.	2.446 (.439)	1.990 (.446)			
			38	1.375	NS
			38	(.262)	NS

TABLE 12. Analysis of types of responses to the four types of requests for clarification. The raw frequencies and percentages of responses within each type of request are presented.

	Response Types		
	No Response	Incomplete Response	Appropriate Response
Request Types			
Repetition	18 (38.20)	12 (25.70)	17 (36.10)
Confirmation	388 (48.20)	82 (10.30)	334 (41.50)
Specification	144 (38.00)	98 (26.10)	136 (35.90)
Elaboration	199 (49.80)	85 (21.40)	115 (28.80)

TABLE 13. Analysis of appropriate responses to the four types of requests for clarification. An analysis of variance with repeated measures was conducted for all subjects across the four response categories. The analysis revealed a significant difference with respect to types of requests. A post-hoc Scheffe' analysis conducted at the .05 level of significance yielded significant differences in the production of appropriate responses to requests for repetition and confirmation from the other groups.

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate
Rows	752.200	39	19.287
Columns	1,321.700	3	440.566
Interaction	1,663.55	117	14.218
Total	3,737.450	159	

F_c = 30.986, sig. at $\angle$.01
F_r = 1.356, NS

TABLE 14. Analysis of incomplete responses to requests for clarification. The raw frequencies and percentages of each type of incomplete response are presented.

Type of Incomplete Response	Number	Percentage
Unintelligible response	70	25.27
Unrelated response	64	21.78
Repetition of previous non-contingent utterance	57	20.10
Repetition of previous contingent utterance	24	10.35
Topic-related but not requested information	57	20.10
Partially correct response	5	2.40
Sum	277	100.00

Appendix A

1. Requests for Repetition

   a. Contingent - The mother asks the child to repeat an utterance or portion of an utterance produced in his or her previous conversational turn.

   b. Noncontingent - The mother asks the child to repeat an utterance, portion of an utterance, or topic produced at an earlier point in the present interaction or during a different interaction.

2. Requests for Confirmation

   a. Contingent - The mother asks the child to confirm the form or content of an utterance produced in his or her previous turn, an interpretation of the form or content of the utterance produced in his or her previous turn, or a statement made by the mother related to the child's message in his or her previous turn.

   b. Noncontingent - The mother asks the child to confirm the form or content of an utterance produced earlier in the present interaction or during a different interaction, an interpretation of the form or content of an utterance produced in the present or a different interaction, or a statement made by the mother related to the general topic at hand.

3. Requests for Specification

   a. Contingent - The mother asks the child to produce a specific piece of information that will more fully complete an utterance produced in his or her previous conversational turn.

   b. Noncontingent - The mother asks the child to produce a specific piece of information that will complete an utterance, topic, or action produced at an earlier point in the present interaction or during a different interaction.

4. Requests for Elaboration

   a. The mother asks the child to produce general information to expand an utterance produced in his or her previous conversational turn.

   b. The mother asks the child to produce general information to expand an utterance or topic presented at an earlier point in the present interaction or during a different interaction.

Appendix B

1. Requests for Repetition

   a. Question Forms - Direct questions which request repetition of the previous utterance or a portion of the previous utterance. Characterized by a rising intonation, which distinguishes them from requests for specification, which may have the same grammatical form but a falling intonation pattern.

   b. Social Forms - Social words and phrases, such as "pardon me," which indicate the need for repetition of the utterance.

   c. Primitive Forms - Reflexive forms, such as "huh," which indicate the need for repetition of the utterance.

   d. Directive Statements - Direct or indirect commands to the speaker to repeat the utterance or a portion of the utterance in his or her previous conversational turn.

   e. Declarative Statements - Statements which reflect the need for repetition by presenting the listener's internal state or desire.

2. Requests for Confirmation

   a. Partial Repetition of the Previous Utterance - Utterances which are a repetition of a portion of the speaker's previous utterance.

   b. Total Repetition of the Previous Utterance - Utterances which are a repetition of the speaker's previous utterance.

   c. Partial Repetition plus Addition/Substitution - Utterances which repeat a portion of the previous utterance and add or substitute new semantic or syntactic information.

   d. Total Repetition plus Addition/Substitution - Utterances which repeat a previous utterance and add or substitute new semantic or syntactic information.

   e. Other Request Forms - Metastatements, tag questions, semantic and syntactic paraphrases, and other forms which indicate the need for confirmation.

3. Requests for Specification

   a. Question Forms - Direct questions which request a specific item. They are distinguished from requests for repetition by a falling intonation pattern.

   b. Directive Statements - Direct or indirect commands to the speaker to produce a specific piece of information.

c. Declarative Statements - Statements which indicate the need for specific information by reflecting the speaker's internal state or desire.

4. Requests for Elaboration

a. Question Forms - Direct questions which request general information related to the child's utterances in his or her previous turn.

b. Directive Statements - Direct or indirect commands to the speaker to produce general information.

c. Declarative Statements - Statements which indicate the need for elaborated information by reflecting the speaker's internal state or desire.

Appendix C

1. Unintelligible Response

   The response provided by the child is unclear, inaudible, or distorted due to multiple misarticulations or interference and thus is unrecognizable to the mother.

2. Unrelated Response

   The response provided by the child is unrelated in content to both the request presented by the mother and the topic(s) presented previously by the mother and/or child.

3. Repetition of Previous Noncontingent Utterance

   The response provided by the child is a complete or partial repetition of an utterance spoken by either the mother or the child at a point in the interaction prior to the current request for clarification-response sequence.

4. Repetition of Previous Contingent Utterance

   The response provided by the child is a complete or partial repetition of the utterance spoken by the mother during the current request for clarification-response sequence.

5. Topic-Related but not Requested Information

   The response provided by the child is related in content to the response indicated by the type of request presented by the mother but does not provide the actual information requested.

6. Partially Correct Response

   The response provided by the child contains a portion, but not all, of the information requested by the mother.